

## CLAIMS

1. A method of providing a user interface including a 2-dimensional representation of a 3-dimensional multiple-page document having a page-turn comprising:
  - 5 - displaying said multiple-page document on a 2-dimensional display to a user;
  - detecting a request from a user for a subsequent page from said multiple-page document;
  - displaying an animated sequence of frames throughout the transition between said first and subsequent pages to create a page-turn; and
  - 10 - wherein said publication is redrawn to accommodate any change in orientation by the user intermediate of frames in said animated sequence.
  
2. A method of providing a user interface as claimed in claim 1 wherein said method further includes the steps of:
  - 15 - representing the multiple-page document and the position of the turning page by means of characteristic points around or about said document;
  - orientating said characteristic points in terms of the position of a user;
  - translating said points to the 2-dimensional display; and
  - drawing at least an outline of said publication with respect to said translated
  - 20 characteristic points.
  
3. A method of providing a user interface as claimed in claim 1 wherein said turning page includes curvature in the plane of the turning page.

4. A user interface as claimed in claim 3 wherein a turning page, if viewed in cross section through the page, assumes a substantially elliptical curve from an edge adjacent a spine of said multi-page document towards an outer edge distal from said spine.

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5. A method of providing a user interface as claimed in claim 2 wherein said characteristic points include bezier control points corresponding to the position of said turning page.

10 6. A method of providing a user interface as claimed in claim 2 wherein said characteristic points include bezier control points relating to the arc through which an outer edge of said turning page may translate.

15 7. A method of displaying an animation frame of a publication with a partially turned page on a display means comprising the steps of:

- determining the rotation of the partially turned page with respect to a reference point for the publication;
- characterising the publication and the partially turned page with characteristic points referenced to a point of rotation;
- 20 - orientating the characteristic points about the point of rotation with reference to the position of a user;
- translating the rotated characteristic points to the display means; and
- drawing the frame of the animation of the publication with reference to the translated rotated characteristic points.

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8. A user interface including a 2-dimensional representation of a 3-dimensional multiple-page document having a page-turn comprising:

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- a 2-dimensional display for displaying said multiple-page document to a user;
- means for detecting a request from a user for a subsequent page from said multiple-page document;
- means for calculating an animated sequence of frames throughout the transition between said first and subsequent pages to create a page-turn; and
- wherein said means for calculating a frame of said animation accommodates any change in orientation by the user intermediate of frames in said animated sequence.

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9. A user interface for displaying an animation frame of a publication with a partially turned page on a display means comprising:

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- means for determining the rotation of the partially turned page with respect to a reference point for the publication;
- means for characterising the publication and the partially turned page with characteristic points referenced to a point of rotation;
- means for orientating the characteristic points about the point of rotation with reference to the position of a user;
- means translating the rotated characteristic points to the display means; and
- means for drawing the frame of the animation of the publication with reference to the translated rotated characteristic points.

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10. A computer readable medium encoded with a computer program to provide a user interface including a 2-dimensional representation of a 3-dimensional multiple-page document having a page-turn, wherein said user interface comprises:
- a 2-dimensional display for displaying said multiple-page document to a user;
  - 5 - means for detecting a request from a user for a subsequent page from said multiple-page document;
  - means for calculating an animated sequence of frames throughout the transition between said first and subsequent pages to create a page-turn; and
  - wherein said means for calculating a frame of said animation accommodates  
10 any change in orientation by the user intermediate of frames in said animated sequence.
11. A computer readable medium encoded with a computer program to provide a user interface for displaying an animation frame of a publication with a partially turned  
15 page on a display means comprising:
- means for determining the rotation of the partially turned page with respect to a reference point for the publication;
  - means for characterising the publication and the partially turned page with characteristic points referenced to a point of rotation;
  - 20 - means for orientating the characteristic points about the point of rotation with reference to the position of a user;
  - means translating the rotated characteristic points to the display means; and
  - means for drawing the frame of the animation of the publication with reference to the translated rotated characteristic points.
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